Rec'd 8 Nov 1786

From Thos Brand Hollis I. +

INSTANCES OF NAVIGATORS

WHO HAVE REACHED

HIGH NORTHERN LATITUDES.

Read at a Meeting of the Royal Society, May 19, 1774.

AS I was the unworthy propoſer of the voyage towards the North Pole, which the Council of the Royal Society recommended to the Board of Admiralty, I think it my duty to lay before the Society ſuch intelligence as I have happened to procure with regard to navigators having reached high Northern latitudes(a); becauſe ſome of theſe accounts ſeem to promiſe, that we may proceed further towards the Pole than the very able officers, who were ſent on this deſtination laſt year, were permitted to penetrate, notwithſtanding their repeated efforts to paſs beyond eighty degrees and an half.

I ſhall begin, however, by making an obſervation or two with regard to the Greenland fiſhery, which will in a great meaſure account for our not being able to procure

---

(a) It is well known that there are many ſuch accounts in print, but to theſe I need not refer the Society.

1775.

X77-1270

procure many inſtances of nearer approaches to the Pole, than the Northern parts of Spitzbergen.

Fifty years ago ſuch apprehenſions were entertained of navigating even in the looſe, or what is called *ſailing ice*, that the crews commonly continued on ſhore, from whence they only purſued the whales in boats.

The demand, however, for oil increaſing, whilſt the number of fiſh rather decreaſed, they were obliged to proceed to ſea in queſt of them, and now by experience and adroitneſs ſeldom ſuffer from the obſtructions of ice (b).

The maſters of ſhips, which are employed in this trade, have no other object but the catching as many whales as poſſible, which as long as they can procure in more Southern latitudes, they certainly will not go in ſearch of at a greater diſtance from the port to which they are to return: they therefore ſeldom proceed beyond N. lat. 80, unleſs driven by a ſtrong Southerly wind, or other accident.

Whenever this happens alſo, it is only by very diligent inquiries that any information can be procured; for the maſters, not being commonly men of ſcience, or troubling their heads about the improvement of geographical knowledge, never mention theſe circumſtances on their return, becauſe they conceive that no one is more intereſted about theſe matters than they are themſelves. Many of the Greenland maſters are likewiſe directed to return after the early fiſhery is over, provided they have tolerable ſucceſs; ſo that they have no opportunity of penetrating to the Northward.

(b) Theſe particulars I received from Captain Robinſon, whom I ſhall have hereafter occaſion to mention.

To theſe reaſons it may be added, that no ſhips were perhaps ever ſent before laſt ſummer with expreſs inſtructions to reach the Pole, if poſſible, as moſt other attempts have been to diſcover a N. E. or N. W. paſſage, which were ſoon defeated by falling in with land.

Having thus endeavoured to ſhew that the inſtances of ſhips reaching high Northern latitudes muſt neceſſarily be rare, I ſhall now proceed to lay before the Society, ſuch as I have been able to hear of ſince the voyage towards the N. Pole was undertaken during laſt ſummer.

When this was determined upon, and mentioned in the News Papers, it became matter of converſation amongſt the crews of the guardſhips, and Andrew Leekie, an intelligent ſeaman on board the Albion (then ſtationed at Plymouth), informed ſome of the officers that he had been as far North as 84$\frac{1}{2}$.

When he was aſked further on this head, he ſaid that he was on board the Reading, Captain Thomas Robinſon, in 1766, and that whilſt he was ſhaving the captain, Mr. Robinſon told him that he had probably never been ſo far to the Northward before, as they had now reached the above mentioned degree of latitude.

Having happened to hear this account of Leekie's, on my return to London this winter, I found out Captain Robinſon, who remembered his having had this con-

X72-1270

procure many inſtances of nearer approaches to the Pole, than the Northern parts of Spitzbergen.

Fifty years ago ſuch apprehenſions were entertained of navigating even in the looſe, or what is called *ſailing ice*, that the crews commonly continued on ſhore, from whence they only purſued the whales in boats.

The demand, however, for oil increaſing, whilſt the number of fiſh rather decreaſed, they were obliged to proceed to ſea in queſt of them, and now by experience and adroitneſs ſeldom ſuffer from the obſtructions of ice (b).

The maſters of ſhips, which are employed in this trade, have no other object but the catching as many whales as poſſible, which as long as they can procure in more Southern latitudes, they certainly will not go in ſearch of at a greater diſtance from the port to which they are to return: they therefore ſeldom proceed beyond N. lat. 80, unleſs driven by a ſtrong Southerly wind, or other accident.

Whenever this happens alſo, it is only by very diligent inquiries that any information can be procured; for the maſters, not being commonly men of ſcience, or troubling their heads about the improvement of geographical knowledge, never mention theſe circumſtances on their return, becauſe they conceive that no one is more intereſted about theſe matters than they are themſelves. Many of the Greenland maſters are likewiſe directed to return after the early fiſhery is over, provided they have tolerable ſucceſs; ſo that they have no opportunity of penetrating to the Northward.

(b) Theſe particulars I received from Captain Robinſon, whom I ſhall have hereafter occaſion to mention.

To theſe reaſons it may be added, that no ſhips were perhaps ever ſent before laſt ſummer with expreſs inſtructions to reach the Pole, if poſſible, as moſt other attempts have been to diſcover a N.E. or N.W. paſſage, which were ſoon defeated by falling in with land.

Having thus endeavoured to ſhew that the inſtances [illegible] ſhips reaching high Northern latitudes muſt neceſſarily be rare, I ſhall now proceed to lay before the Society, ſuch as I have been able to hear of ſince the voyage towards the N. Pole was undertaken during laſt ſummer.

When this was determined upon, and mentioned in the News Papers, it became matter of converſation amongſt the crews of the guardſhips, and Andrew Leekie, an intelligent ſeaman on board the Albion (then ſtationed at Plymouth), informed ſome of the officers that he had been as far North as 84½.

When he was aſked further on this head, he ſaid that he was on board the Reading, Captain Thomas Robinſon, in 1766, and that whilſt he was ſhaving the captain, Mr. Robinſon told him that he had probably never been ſo far to the Northward before, as they had now reached the above mentioned degree of latitude.

Having happened to hear this account of Leekie's, on my return to London this winter, I found out Captain Robinſon, who remembered his having had this converſation with Leekie, but ſaid that he was miſtaken in ſuppoſing that they had reached 84½ N. lat. as they were only in 82½.

Captain Robinſon then explained himſelf, that he had at this time computed his latitude by the run back to Hakluyt's Headland in 24 hours; from which, and other circumſtances mentioned in my preſence before two ſea officers, they told me afterwards that they had little or no doubt of the accuracy of his reckoning. Mr Robinſon likewiſe remembers that the ſea was then open, ſo that he hath no doubt of being able to penetrate to 83, but how much further he will not pretend to ſay.

This ſame captain, in the ſhip St. George, was, on the 15th of June 1773, in N. lat. 81° 16′, by a very accurate obſervation with an approved Hadley's quadrant, in which he alſo made the proper allowance for the refraction in high Northern latitudes, at which time ſeeing ſome whales ſpouting to the Northward, he purſued them for five hours, ſo that he muſt have reached 81½, when the ſea was open to the Weſtward and E.N.E. as far as he could diſtinguiſh from the maſt-head. His longitude was then 8 degrees E. from the meridian of London.

Captain Robinſon is a very intelligent ſeaman, and hath navigated the Greenland ſeas theſe twenty years, except during the interval that he was employed by the Hudſon's Bay Company(c).

I could

(c) He lived during this winter in Queen-ſtreet, near Greenland-dock, Rotherhithe: he hath ſailed, probably, by this time on the Greenland fiſhery.

With

I could add ſome other, perhaps intereſting, particulars, which I have received from Captain Robinſon, with regard to Spitzbergen and the Polar ſeas; I will only mention, however, that he thinks he could ſpend a winter not uncomfortably in the moſt Northern parts we are acquainted with, as there are three or four ſmall ſettlements of Ruſſians in Spitzbergen for the ſake of the ſkins of quadrupeds, which are then more valuable, than if the animal is taken in ſummer.

The next inſtance I ſhall mention of a navigator who hath proceeded far Northwards is that of Captain Cheyne, who gave anſwers to certain queries drawn up by Mr. Dalrymple, F. R. S. in relation to the Polar ſeas, and which were communicated laſt year to the Society.

Captain Cheyne ſtates in this paper, that he hath been as far as N. lat. 82, but does not ſpecify whether by *obſervation* or his *reckoning*, though from many other anſwers to the interrogatories propoſed, it ſhould ſeem that he ſpeaks of the latitude by *obſervation*. Unfortunately Captain Cheyne is at preſent on the Coaſt of Africa, ſo that further information on this head cannot be now procured from him.

Whilſt the ſhips deſtined for the N. Pole were preparing, a moſt ingenious and able ſea officer, Lieutenant John Cartwright, told me that twelve years ago he had been informed of a very remarkable voyage made by Captain Mac-Callam as far nearly as 84 N. lat.

This

With regard to his having been in N. lat. 81° 30′, in June 1773, he can prove it by his journal, if that evidence ſhould be required.

This account Mr. Cartwright had received from a brother officer, Mr. James Watt, now a lieutenent in the Royal Navy, who was on board Captain Mac-Callam's ſhip.

I thought it my duty to acquaint the Admiralty with this intelligence, who would have ſent for Mr. Watt, but he was then employed on the coaſt of America.

On his return from thence within the laſt month, Mr. Cartwright introduced a converſation with regard to Captain Mac-Callam's voyage, when Mr. Watt repeated all the circumſtances which he had mentioned to him twelve years ago; after which Mr. Cartwright, thinking that I ſhould be glad to hear the particulars from Mr. Watt himſelf, was ſo good as to bring him to my chambers, when I received from him the following information:

In the year 1751 Mr. Watt, then not quite ſeventeen years of age, went on board the Campbeltown of Campbeltown, Captain Mac-Callam, which ſhip was at that time employed in the Greenland fiſhery.

It ſeems that during the time the whales are ſuppoſed to copulate, the crews of the Greenland veſſels commonly amuſe themſelves on ſhore.

Captain Mac-Callam however (who was a very able and ſcientific ſeaman) thought that a voyage to the N. Pole would be more intereſting, and that the ſeaſon being a fine one, he had a chance of penetrating far to the Northward, as well as returning before the later fiſhery took place. He accordingly proceeded without

the

the leaſt obſtruction to $83\frac{1}{2}$, when the ſea was not only open to the Northward, but they had not ſeen a ſpeck of ice for the laſt three degrees, and the weather at the ſame time was temperate; in ſhort Mr. Watt hath never experienced a more pleaſant navigation.

It need be ſcarcely obſerved, that the latitude of $83\frac{1}{2}$ was determined by obſervation, as the great object of the voyage was to reach the Pole; the Captain therefore, the mate, and young Mr. Watt, determined the latitude from time to time, both by Davis and Hadley's quadrants: to this I may add, that their departure and return were from and to Hakluyt's Headland.

When they were advancing into theſe high Northern latitudes, the mate complained that the compaſs was not ſteady, on which Captain Mac-Callam deſiſted from his attempt, though with reluctance; knowing that if any accident happened, he ſhould be blamed by his owners, who would be reminded certainly by the mate of the proteſts he had made againſt the ſhip's proceeding further Northward.

Several of the crew however were for proſecuting their diſcoveries, and Mr. Watt particularly remembers the chagrin which was expreſſed by a very intelligent ſeaman, whoſe name was John Kelly; Captain Mac-Callam alſo, after his return from that voyage, hath frequently ſaid, in the preſence of Mr. Watt and others, that, if the mate had not been faint-hearted, the ſhip poſſibly might have reached the pole.

Both Captain Mac-Callam and the mate are now dead, and it is rather doubtful whether the ſhip's journal can be procured.

It remains therefore to be conſidered what may be objected to the credibility of this very intereſting account.

I have ſtated that Mr. Watt was not at the time this voyage took place quite ſeventeen years of age, but I have alſo ſtated that he obſerved himſelf (as well as the maſter and mate), from time to time. Is it therefore more extraordinary he ſhould remember with accuracy that, two and twenty years ago, he had been in N. lat. $83\frac{1}{2}$, than that at the ſame diſtance of time, he might recollect that he had been at a friend's houſe which was ſituated 83 miles and an half from London? Or rather indeed is not his memory, with regard to this high latitude, much more to be depended upon, as the circumſtance is ſo much more intereſting?

To this I may add, that it being his firſt voyage, and ſo remarkable a one, Mr. Watt now declares that he remembers more particulars relative to it, than perhaps in any other ſince that time; Mr. Watt alſo being of a ſcientific turn, the high Northern latitude was likely to make a more ſtrong impreſſion upon him: other ſea officers have likewiſe told me, that the circumſtances of their firſt voyages are moſt freſh in their memory, the reaſon for which is too obvious to be dwelt upon.

If Mr. Watt's recollection however is diſtruſted, this objection extends equally to Captain Mac-Callam's frequent declarations, that, if the apprehenſions of the mate had not prevented, he might poſſibly have reached the N. Pole; and how could he have conceived this, unleſs he had imagined himſelf to have been in a very high Northern latitude?

But it may be poſſibly ſaid, that this voyage took place above twenty years ſince, and that therefore at ſuch a diſtance of time no one's memory can be relied upon.

It is true indeed that Mac-Callam made this attempt in 1751, but Mr. Watt continued his ſervices the following year in a Greenland ſhip, and therefore, traverſing nearly the ſame ſeas, muſt have renewed the recollection of what he had experienced in the preceding voyage, though he did not then penetrate further than N. lat. 80.

This however brings it only to 1752, but I have already ſtated, that within theſe twelve years he mentioned all the particulars above related to his brother officer, Lieutenant Cartwright.

Mr. Watt alſo frequently converſed with Captain Mac-Callam about this voyage after both of them had quitted the Greenland ſhips; Mr. Watt riſing regularly to be a Lieutenant in his Majeſty's ſervice, and Captain Mac-Callam becoming Purſer of the Tweed man of war.

It ſo happened that in the year of the expedition againſt Belleiſle, Mr. Watt, Captain Mac-Callam, and Mr. Walker (commonly called Commodore Walker, from his having commanded the Royal Family privateers in the late war) met together at Portſmouth, when they talked over the circumſtances of this Greenland voyage, which Mr. Walker was intereſted in, by having been the principal owner of the Campbeltown.

Mr. Watt's memory was therefore again refreſhed with regard to all theſe circumſtances: Mr. Walker is indeed now in Spain, but is expected to return very ſoon, which if he ſhould do, I will not fail to lay an account before the Society of the converſation which then paſſed at Portſmouth.

Mr. Watt and Captain Mac-Callam met alſo eleven years ago in London, when they as uſual converſed about the having reached ſo high a Northern latitude.

I now come to my laſt proof, which I received from Dr. Campbell, the able continuator and reviſer of Harris's Collection of Voyages.

In that very valuable compilation, Commodore Roggewein's circumnavigation makes a moſt material addition, ſome of the moſt intereſting particulars of which were communicated by Dr. Daillie, who was a native of Holland (d), and lived in Racquet-court, Fleetſtreet, about the year 1745, where he practiſed phyſick.

Dr. Campbell went to thank Daillie for the having furniſhed him with Commodore Roggewein's voyage, when Daillie ſaid that he had been further both to the

---

(d) He was a grandſon of Daillie, who was author of a book, much eſteemed by the Divines, entitled "*De Uſu Patrum.*"

Southward and to the Northward than perhaps any other perſon who ever exiſted.

He then explained himſelf as to the having been in high Southern latitudes, by ſailing in Roggewein's fleet (e), and as to his having been far to the Northward, he gave the following account:

Between fifty and ſixty years ago it was uſual to ſend a Dutch ſhip of war to ſuperintend the Greenland fiſhery, though it is not known whether this continues to be a regulation at preſent.

Dr. Daillie (then young) was on board the Dutch veſſel employed on this ſervice (f), and during the interval between the two fiſheries, the Captain determined, like Mr. Mac-Callam, to try whether he could not reach the Pole, and accordingly penetrated (to the beſt of Dr. Campbell's recollection) as far as N. lat. 88, when the weather was warm, the ſea perfectly free from ice, and rolling like the bay of Biſcay. Daillie now preſſed the Captain to proceed, but he anſwered that he had already gone too far by having neglected his ſtation, for which he ſhould be blamed in Holland, on which account alſo he would ſuffer no journal to be made, but returned as ſpeedily as he could to Spitzbergen.

There are undoubtedly two objections which may be made to this account of Dr. Daillie's, which are, that it

---

(e) Roggewein reached S. lat. 62° 30′. See Harris.

(f) Dr. Campbell does not recollect in what capacity he ſerved, but, as he afterwards practiſed phyſick, he might probably have been the ſurgeon.

it depends not only upon his own memory, but that of Dr. Campbell, as no journal can be produced, for the reaſon which I have before ſtated.

The converſation between Dr. Campbell and Daillie aroſe from the accidental mention of Roggewein's voyage to the Southward; and can it be ſuppoſed that Daillie invented this circumſtantial narrative on the ſpot, without having actually been in a high Northern latitude?

If this be admitted to have been improbable, was he not likely to have remembered with accuracy what he was ſo much intereſted about, as to have preſſed the Dutch Captain to have proceeded to the Pole?

But it may be ſaid alſo that we have not this account from Daillie himſelf, but at ſecond hand from Dr. Campbell, at the diſtance of thirty years from the converſation.

To this it may be anſwered, that Dr. Campbell's memory is moſt remarkably tenacious, as is well known to all thoſe who have the pleaſure of his acquaintance; and, as he hath written ſo ably for the promotion of geographical diſcoveries in all parts of the globe, ſuch an account could not but make a ſtrong impreſſion upon him, eſpecially as he received it juſt after the firſt edition of his compilation of voyages.

No one eaſily forgets what is highly intereſting to him; and, though I do not pretend to have ſo good a memory as Dr. Campbell, I have ſcarcely a doubt, but that if I ſhould live thirty years longer, and retain my

faculties,

faculties, I ſhall recollect with preciſion every latitude which I have already ſtated in this paper.

What credit, however, is to be given to all theſe narratives is entirely ſubmitted to the Society, as I have ſtated them moſt fully with every circumſtance which may invalidate, as well as ſupport them; and if I have endeavoured to corroborate them by the obſervations which I have made, it is only becauſe I believe them.

It ſhould ſeem upon the whole of the inquiries upon this point, that it is very uncertain when ſhips may penetrate far to the Northward of Spitzbergen, and that it depends not only upon the ſeaſon, but other accidents, when the Polar ſeas may be ſo free from ice as to permit attempts to make diſcoveries(g).

Poſſibly, therefore, if a king's officer was ſent from year to year on board one of the Greenland ſhips, the lucky opportunity might be ſeized, and the Navy Board might pay for the uſe of the veſſel, if it was taken from the whale fiſhery, in order to proceed as far as may be towards the North Pole.

(g) Captain Robinſon hath informed me, that at the latter end of laſt April, a Whitby ſhip was in N. lat. 80, without having been materially obſtructed by the ice.

DAINES BARRINGTON, F.R.S.

ADDITIONAL

PROOFS

THAT

THE POLAR SEAS

ARE OPEN.

Read at a Meeting of the Royal Society, Dec. 22, 1774.

ADDITIONAL

PROOFS, &c.

Read at a Meeting of the Royal Society, Dec. 22, 1774.

AS I happen to have collected many additional facts ſince my paper, containing Inſtances of Navigators who had reached high Northern Latitudes, was read before the Society in May laſt, I ſhall take the liberty to ſtate them according to chronological order; together with ſome general reaſons why it may be preſumed, that the Polar ſeas are, at leaſt ſometimes, navigable.

I think it my duty to do this, not only becauſe I was the unworthy propoſer of the Polar voyage in 1773, which was recommended by the Council of the Royal Society to the Board of Admiralty; but becauſe it would not redound much to the credit of the Society, if they planned a voyage to reach the N. Pole, if poſſible, when a perpetual barrier of ice prevented any diſcoveries in the Spitzbergen ſeas to the Northward of 80½, which is not a degree beyond the moſt common ſtation of the Greenland fiſhers.

I muſt here, however, repeat, that no one is more entirely ſatisfied than myſelf of the great abilities, perſeverance, and intrepidity, with which the officers who were ſent on this deſtination, attempted to proſecute their diſcoveries; but I conceive, from the arguments and facts which will follow, that they were ſtopped by a moſt unfortunate barrier of ice (of great extent indeed), but which was only temporary, and not perpetual.

If ſuch a wall of ice hath been conſtantly fixed in this latitude, and muſt continue to be ſo, there is an end to all diſcoveries to be made to the Northward of Spitzbergen; but if it is only occaſional, the attempt may be reſumed in ſome more fortunate year.

The point therefore being of ſo much importance to geography, I hope the Society will pardon me, if I more fully enter into the ſubject than I did in my former paper.

The Engliſh have long taken the lead in geographical diſcoveries. One of our ſhips of war is lately returned after having penetrated into the Antarctic circle; and is it not rather a reflection upon a ſcientific nation, that more is not known with regard to the circumpolar regions of our own hemiſphere, than can be collected from maps made in the time of Charles I. eſpecially when the run from the mouth of the Thames to the N. Pole is not a longer one, than from Falmouth to the Cape de Verde iſlands?

Though I have the honour to be a Fellow of a Society inſtituted for the promotion of Natural Knowledge, the prejudices of an Engliſhman are ſo ſtrong with me, that I cannot but wiſh the diſcoveries to be made in the Polar ſeas may be atchieved by my countrymen; but if we are determined to abandon the enterprize, ſcience is to be honoured from whatever quarter it may come, and it hath therefore given me great ſatisfaction to hear, that Monſ. de Bougainville is ſoon to be ſent on diſcoveries to the Northward.

In the outſet of my former paper, I ſaid I ſhould not trouble the Society with any inſtances of navigators having reached high Northern latitudes, which had appeared in print. During the courſe of this ſummer, however, I have happened to find three ſuch accounts, which were never before alluded to, and which are extracted from books that are not commonly looked into, or at leaſt often conſulted upon points of geography.

When the Royal Society was firſt inſtituted, it was uſual to ſend queries to any traveller who happened to reſide in England, after having been in parts of the world which are not commonly frequented.

In the year $166\frac{2}{3}$, Mr. Oldenburg, then ſecretary of the Society, was ordered to regiſter a paper, entitled, "Several Inquiries concerning Greenland, anſwered "by Mr. Grey, who had frequented thoſe parts."

The 19th of theſe queries is the following:

"How near any one hath been known to approach "the Pole?"

Anſwer. "I once met upon the Coaſt of Greenland, " a Hollander, that ſwore he had been but half a de- " gree from the Pole, ſhewing me his journal, which " was alſo atteſted by his mate; where they had ſeen " no ice or land, but all water."

After which Mr. Oldenburgh adds, as from himſelf, " This is incredible(a)."

It may not be improper therefore, after mentioning this firſt inſtance of a navigator's having approached ſo near to the Pole, to diſcuſs upon what reaſons Mr. Oldenburgh might found this his very peremptory incredulity.

Was it becauſe the fact is impoſſible upon the very ſtating it?

This puts me in mind of the incredulity which is generally ſhewn to a paſſage in Pliny, even after the actual fact hath ſhewn not only the poſſibility, but eaſy practicability of what is alluded to. Pliny informs us(b), that Eudoxus flying the vengeance of king Lathy-

---

(a) See Dr. Birch's Hiſtory of the Royal Society, vol. I. p. 202. Theſe queries are nineteen in number, to which the anſwers are very circumſtantial. I had an opportunity of reading them over to three very intelligent maſters of Greenland ſhips, who confirmed every particular. One circumſtance I think it right to take notice of, though it does not immediately relate to the point in diſcuſſion, which is, that there are coals in Spitzbergen, by which ſeven of Mr. Grey's crew were enabled to bear the ſeverity of the winter, having been left behind by an accident. One of the Greenland maſters, to whom I read Mr. Grey's anſwers, confirmed this particular; ſaying, that he had burnt himſelf Spitzbergen coals, and that they were very good.

(b) L. II. ch. 67.

rus ſailed from Arabia, and reached the Straits of Gibraltar: yet no one ſcarcely will believe this account of Eudoxus's navigation, notwithſtanding this courſe is ſo often followed.

Was it becauſe no Engliſhman had then been ſo far to the Northward?

It is very eaſy, however, to account why ſuch attempts ſhould rather be made by the Dutch than the Engliſh, in the infancy of the Greenland fiſhery.

The Southern parts of this country were diſcovered by Sir Hugh Willoughby, A. D. 1553; after which, no Engliſh ſhips were ſent on that coaſt for nearly fifty years. In the beginning of the laſt century, however, a competition aroſe between the Engliſh and Dutch, with regard to the whale fiſhery, and the Engliſh drove the Dutch from moſt of the harbours, under the right of firſt diſcoverers, in which they were ſupported by royal inſtructions; ſo that the Dutch were obliged to ſeek for new ſtations, whereas the Engliſh were commonly in poſſeſſion of the Greenland ports, which they conſidered as their own(c).

Did Mr. Oldenburgh diſbelieve the Dutchman's relation, becauſe ice is frequently met with to the Southward of N. lat. 80?

(c) See Purchas, *paſſim*. Whilſt theſe diſputes continued, the Dutch often ſent ſhips of war to protect their Greenland traders, which accounts for Dr. Daillie's ſailing in ſuch a veſſel to 88, as I have ſtated in my former paper

Ice is commonly ſeen upon the great bank of Newfoundland, and the harbour of Louiſburgh is often covered with it, which is only in N. lat. 46; yet Davis and Baffin have penetrated, under nearly the ſame meridians, beyond 70.

I will now ſuppoſe the tables turned between the two hemiſpheres of our globe, and that a Southern diſcoverer, meeting with ice upon the banks of Newfoundland, returns to his own hemiſphere fully impreſſed with the impoſſibility of proceeding much to the Northward of N. lat. 46; would not his countrymen be deceived by the inferences which were drawn from what had been obſerved in the ſeas of the Northern hemiſphere?

Bouvet, in 1738, penetrated to 53 S. lat. and in a meridian 5 degrees to the W. of the Cape of Good Hope, in which ſituation he fell in with floating ice; after which he did not proceed any further. Our two ſhips of war, lately ſent upon diſcoveries to the Southward, however, have been ſome minutes within the Antarctic circle, upon a no very diſtant meridian from that in which Bouvet ſailed.

Muſt the fact be diſbelieved becauſe all the ice in the Polar ſeas comes from the Northward? But this is not ſo, as Mr. Grey informs us[(d)], that the S. E. wind brings the greateſt quantity of ice to the Coaſts of Spitzbergen; which indeed is highly probable, as this wind blows from thoſe parts of the *Frozen Sea* into which the great rivers of Siberia and Tartary empty themſelves. My own poor conception with regard to the floating ice in the Spitzbergen ſeas is, that theſe maſſes come almoſt entirely from the ſame quarter, as it is ſo difficult to freeze any large quantity of ſalt water. Theſe pieces of ice, therefore, being once launched into the *Frozen Sea*, are diſperſed by winds, tides, and currents, in every direction, ſome of them being perhaps carried to very high Northern latitudes, from which they are again wafted to the Southward.

(d) Dr. Birch's Hiſt. R. Soc.

But allowing, for an inſtant, that all the ice may come from the Northward, muſt not then an open ſea be left in the higher Northern latitudes, from which theſe maſſes of ice are ſuppoſed to have floated?

Was it becauſe the more one advances towards the Pole, vegetation invariably is diminiſhed?—But this is not the fact.

Nova Zembla, ſituated only in N. lat. 76, produces not even any ſorts of graſs(e); ſo that the only quadrupeds which frequent it are foxes and bears, both of which are carnivorous. In the Northern parts of Spitzbergen, on the other hand, they have reyn-deer, which are often exceſſively fat; and Mr. Grey mentions three or four plants, which flower there during the ſummer(f).

(e) Purchas, vol. I. p. 479.

(f) Dr. Birch's Hiſt. R. Soc. vol. I. p. 202. *et ſeq.*

Was it becauſe no one had ever conceived it poſſible to proceed ſo far as the Pole?

Thorne, however, a merchant of Briſtol, had made ſuch a propoſal in the reign of Henry VIII; and I ſhall now alſo ſhew, that not only Mr. Oldenburgh's contemporaries continued to believe ſuch a voyage to be feaſible, but many great names in ſcience who lived after him.

Wood ſailed on the diſcovery of a N. E. paſſage to Japan in 1676; and, in the publication of his voyage, he hath ſtated the grounds upon which he conceived ſuch a paſſage to be practicable; the ſtrongeſt of all which, perhaps, is the relation of Captain Goulden, with regard to a Dutch ſhip having reached N. lat. 89. Though this account hath often been referred to, I do not recollect to have ſeen it ſtated with all the circumſtances which ſeem to eſtabliſh its veracity beyond contradiction: I ſhall therefore copy the very words of Wood(g).

" Captain Goulden, who had made above thirty
" voyages to Greenland, did relate to his majeſty, that
" being at Greenland, ſome twenty years before, he
" was

(g) Moxon's account of a Dutch ſhip having been two degrees beyond the Pole, was alſo much relied upon by Wood, which hath never been printed at large, but in a now very ſcarce tract of Moxon's, and in the ſecond volume of Harris's Voyages, p. 396. In confirmation of this very circumſtantial and intereſting narrative, I have only to add, that Moxon was hydrographer to Charles II. and hath publiſhed ſeveral ſcientific treatiſes. See the Catalogue of the Bodleian Library.

" was in company with two Hollanders to the eaſtward of
" Edge's iſland; and that the whales not appearing on
" the ſhore, the two Hollanders were determined to go
" further Northward; and in a fortnight's time re-
" turned, and gave it out that they had ſailed into the
" lat. 89; and that they did not meet with any ice, but
" a free and open ſea; and that there run a very hollow
" *grown* ſea, like that of the Bay of Biſcay. Mr.
" Goulden being not ſatisfied with the bare relation,
" they produced him four journals out of the two ſhips,
" which teſtified the ſame, and that they all agreed
" within four minutes.(b)."

Having thus ſtated Wood's own words, it ſhould ſeem, that they who deny the authenticity of the relation, muſt contend that the crews of both theſe Dutch ſhips entered into a deliberate ſcheme of impoſing upon their brother whale fiſhers, and had drawn up four fictitious journals accordingly, becauſe ſo many are ſtated to have been produced out of the two ſhips to Captain Goulden, whilſt each of them varied a few minutes in the latitude; whereas if they had determined to deceive Captain Goulden and his crew, the journals would probably have tallied exactly. I muſt beg leave alſo to make an additional obſervation on the account as ſtated by Wood, which is, that the Dutch ſhips only went to the Northward, in ſearch of whales, but did not give it out that they intended to make for the Pole, which if they had done, it might poſſibly have been an inducement to carry on the deception, by a fictitious ſet of journals. To this it may likewiſe be added, that the Dutch are not commonly jokers.

(b) Wood's Voyage, p. 145. *Grown ſea,* is the expreſſion in the original.

I have already remarked, that Wood makes this account one of the principal reaſons for his undertaking the N. E. paſſage to Japan. Wood therefore (Mr. Oldenburgh's contemporary) was not a diſbeliever, before his voyage, of the poſſibility of reaching ſo high a Northern latitude, nor of any of the circumſtances ſtated in this narrative.

But Captain Wood is not a ſingle inſtance of ſuch credulity, as the very year before he ſailed on his voyage, we find in the Philoſophical Tranſactions for 1675 (i) the following paſſage: " For it is well known " to all that ſail Northward, that moſt of the Northern " coaſts are frozen up many leagues, though in the open " ſea it is not ſo, *no nor under the Pole itſelf*, unleſs by " accident." In which paſſage, the having reached the Pole is alluded to as a known fact, and ſtated as ſuch to the Royal Society.

Wood indeed, after not being able to proceed further than N. lat. 76, diſcredits in the lump all the former inſtances of having reached high Northern latitudes, in the following words:

" So here the opinion of William Barentz was con- " futed, and all the Dutch relations, which certainly

---

(i) N° 118.

" are all forged and abuſive pamphlets, as alſo the rela-
" tions of our countrymen (k)."

In juſtice, however, to the memories of both Engliſh and Dutch navigators, I cannot but take notice of theſe very peremptory and ill-founded reflections, made by Wood; and which ſeem to be dictated merely by his diſappointment in not being able to effect his diſcovery.

Wood attempted to ſail in a N. E. direction between Spitzbergen and Nova Zembla, but was obſtructed by ice, ſo that he could not proceed further than the W. coaſt of Nova Zembla in N. lat. 76. Thinking it, therefore, prudent to return, he at once treats as fabulous, not only the ideas of that moſt perſevering navigator William Barentz, but likewiſe all other accounts of ſhips having reached high Northern latitudes. Now that the ice which obſtructed Wood in N. lat. 76 was not a perpetual, but only occaſional barrier, appears to demonſtration, by the Ruſſians having not only diſcovered, but lived ſeveral years in the iſland of Maloy Brun, which lies between Spitzbergen and Nova Zembla, and extends from N. lat. 77° 25′ to 78° 45′ (l).

(k) Wood's Voyage, p. 181.

(l) See the Engliſh Tranſlation of profeſſor Le Roy's account of this Iſland, p. 85. London, 1774, 8vo, printed for C. Heydinger, in the Strand. See alſo the Sieur de Vaugondy's *Eſſai d'une Carte Polaire Arctique*, publiſhed in 1774, who repreſents this iſland as extending from N. lat. 77° 20′ to 78° 30′, its longitude being 60 degrees E. from Fero.

As for Wood's treating all diſcoveries towards the Pole, from the Northern parts of Spitzbergen, as fabulous, he had not the leaſt foundation, from what he had obſerved on his own voyage, for this unmerited aſperſion upon their veracity; becauſe if Wood's barrier between Spitzbergen and Nova Zembla, in N. lat. 76, had been perpetual, what hath this to do with the courſe of a ſhip ſailing from the Northern parts of Spitzbergen, upon a meridian towards the Pole?

I cannot, however, diſmiſs Wood's voyage, without making ſome further remarks on his concluding, that the obſtructions which he met with in N. lat. 76 were perpetual.

Almoſt every voyage to ſeas, in which floating ice is commonly to be found, proves the great difference between the quantities, as well as ſize of theſe impediments to navigation, though in the ſame latitude and time of the year.

Davis in his two firſt voyages to diſcover the N. W. paſſage, could not penetrate beyond 66; but in his third voyage, in 1587, he reached 72° 12′(m).

In the year 1576, Sir Martin Frobiſher paſſed the Straits (ſince called from their firſt diſcoverer) without any obſtructions from ice: in his two following voyages however, he found them in the ſame month, to uſe his own expreſſion, "in a manner ſhut up with a long "mure of ice(n)."

(m) See Hakluyt and Purchas, vol. I. p. 84.

(n) Purchas, ibid.

In the year 1614, Baffin penetrated to 81, and thought he ſaw land as far as 82 to the N. E. of Spitzbergen, which is accordingly marked in one of Purchas's maps. During this voyage he met, near Cherry iſland, ſituated only in 74 N. lat. two banks of ice; the one, 40 leagues in length, the other 120; which laſt would extend to 25 degrees of longitude in N. lat. 76, where Wood fixes his barrier.

It need therefore ſcarcely be obſerved, that ſuch a floating wall of ice, 120 leagues long, by being jammed in between land, or other banks of ice, might afford an appearance indeed of forming a perpetual barrier, when perhaps, within the next 24 hours, the wall of ice might entirely vaniſh.

Of the ſudden aſſemblage of ſuch an accumulation of ice, I ſhall now mention two, rather recent inſtances.

I have been very accurately informed, that the late Colonel Murray happened to go, in the month of May, from one of our Southern colonies to Louiſburgh, when the harbour was entirely open; but on riſing in the morning, it was completely filled with ice, ſo that a waggon might have paſſed over it in any direction.

I have alſo received the following account from an officer in the royal navy, who was not many years ago on the Newfoundland ſtation.

In the middle of June, the whole ſtraits of Belliſle were cloſed, in the ſame manner with the harbour of Louiſburgh, and for three weeks together, a carriage might have paſſed from one ſhore to the other; when upon riſing in the morning, the ice had almoſt entirely diſappeared. Such is the ſudden accumulation and removal of ice, in latitudes 24 and 30 degrees to the Southward of Wood's ſituation.

I ſhall now endeavour to ſhew, that Dr. Halley was no more incredulous with regard to the poſſibility of reaching high Northern latitudes, than Captain Wood was, before the ill ſucceſs of his voyage on diſcovery.

Mr. Miller, in his Gardener's Dictionary, hath the following paſſage, under the article, THERMOMETER:

" Mr. Patrick has fixed his thermometer to a ſcale of " ninety degrees, which are numbered from the top " downwards, and alſo a moveable index fixed to it. " The deſign of this is to ſhew, how the heat and cold " is changed from the time it was laſt looked upon, " according to the different degrees of heat and cold in " all latitudes. As by the trial of two thermometers, " which have *been regulated abroad*; the one by Dr. " Halley, in his late Southern voyage; and the *other by* " *Captain* Johnſon, *in his voyage to Greenland*; the firſt " hath a heat under the equinoctial line, and the other " *a degree of cold in* 88 *degrees of N. latitude.*"

I have taken ſome pains to find out a more full account of this voyage of Captain Johnſon's; but have only met with the following confirmation of it perhaps, in the 1ſt vol. of Monſ. de Buffon's Natural Hiſtory (o).

" I have

(o) Vol. I. p. 215, quarto.

"I have been aſſured, *by perſons of credit*, that an "Engliſh captain, whoſe name was Monſon, inſtead of "ſeeking a paſſage to China between the Northern "countries, had directed his courſe to the Pole, and "had approached it within two degrees, where there "was an open ſea, without any ice."

As the Captain *Monſon* mentioned in this paſſage, reached exactly the ſame degree of latitude with Captain *Johnſon*, I ſhould rather think, that this is the ſame voyage; eſpecially, as it is well known, that the French writers ſeldom trouble themſelves about the orthography of foreign names.

If this, however, ſhould not be the caſe, it muſt be admitted to be an additional inſtance of a ſhip's having reached N. lat. 88, as well as Monſ. de Buffon's giving credit to ſuch relation(p).

Having therefore not been able to pick up any other circumſtances in relation to Captain Johnſon's voyage, I ſhall now ſtate what ſeems to be fairly deducible from the paſſage which I have copied from Miller's Gardener's Dictionary.

Dr. Halley made his voyage to the Southward in 1700; on the return from which, he probably employed Patrick, as the moſt eminent maker of weather glaſſes(q), to graduate a thermometer, according to the heat he had experienced under the equator. It was very natural therefore, when ſuch a point of heat was to be marked upon the inſtrument, to graduate it either for high Southern, or Northern latitudes.

(p) To this liſt of credulous perſons (as perhaps they may be conſidered by ſome) I ſhall beg leave to add the names of Maclawrin and Dr. Campbell. The former of theſe was ſo perſuaded of the ſeas being open quite to the Pole, that he hath not only adviſed this method of proſecuting diſcoveries; but as I have been informed, was deſirous of going the voyage himſelf.

It ſhould ſeem then, that Dr. Halley had procured Captain Johnſon (who was maſter of a Greenland ſhip) to carry a thermometer on his voyage to Spitzbergen, and that he fortunately was able to reach ſo high a degree of latitude as 88.

If the thermometer had been calculated only for imaginary degrees of heat and cold, it would have been marked for the Equator and the Pole; whereas it was only graduated for 88 degrees of N. latitude, which Captain Johnſon therefore had as clearly reached, as Dr. Halley had the Equator.

At all events, Patrick's thermometer muſt have been made under Dr. Halley's inſpection; and would he have permitted it to be marked for 88 degrees of N. latitude, according to Captain Johnſon's voyage, if he had diſbelieved his narrative?

My third and laſt inſtance, from any printed authority, but in a book which is not commonly to be met with, is, that of Captain Alexander Cluny, as by a map, engraved under his direction, the very ſpot is marked to the Weſtward of Spitzbergen, and in ſomewhat more than 82 degrees of N. latitude, where he ſaw neither land nor ice(r).

(q) I have been informed, that his ſhop was in the Old Bailey, and that he died about fifty years ago.

Before I proceed, however, to ſtate ſeveral other inſtances of reaching high Northern latitudes, which have never appeared in print, and which I have collected ſince my laſt paper on this head, I muſt beg the indulgence of the Society, whilſt I lay before them ſome additional reaſons why the Polar ſeas may be conceived to be navigable(s).

Speculative geographers have ſuppoſed, that there ſhould be nearly the ſame quantity of land and ſea in both hemiſpheres, in order to preſerve the equilibrium of the globe.

(r) See the American Traveller, London, 1769, quarto; as alſo, the Sieur de Vaugondy's *Eſſai d'une Carte Polaire Arctique*, publiſhed in 1774; where however, he lays down this ſpot from Cluny's map in little more than 81, whereas it is fully in 82. The longitude of this ſpot is 30 degrees E. from Fero.

(s) I have lately received a letter from the Rev. Mr. Tooke, Chaplain to the Factory at St. Peterſburgh, dated December 30, 1774, which he concludes in the following manner: "I have a fact or two to communicate, which ſeem "to indicate, if not to a certainty, yet at leaſt to a great degree of probability, "that the ſea is open to the Pole the year throughout; but my paper will not "hold them." From the accuracy with which ſeveral other intereſting particulars are ſtated in this letter, I have great reaſon to regret, that I have not an opportunity of laying the facts alluded to before the Public, with all their circumſtances, as I have reaſon to ſuppoſe, that Mr. Tooke's information came from Archangel ſeamen.

It is poſſible indeed, that this may be accounted for by the Antarctic ſeas being more ſhallow than thoſe near the North Pole; as we do not know this, however, by the actual ſoundings, but are informed by Captain Fourneaux, that there is no land even as far as the Antarctic circle, upon the meridian in which he failed; as alſo, that no land was obſerved during the courſe of his circumnavigation in 55 S. lat. at a medium, it ſeems neceſſary, as the quantity of land ſo greatly preponderates in the Northern hemiſphere, that from N. lat. 80½ to the Pole itſelf, muſt be chiefly, if not entirely ſea.

Let us now conſider, whether ſuch a ſea is probably at all times in a ſtate of congelation.

I do not know, whether it hath been ſettled by thermometrical obſervations, that there is any material difference between the heat under the Equator, and that which is experienced within the Tropics; moſt travellers complain indefinitely of its exceſs in ſuch latitudes.

As this point, therefore, ſeems not to have been ſettled by the thermometer, let us have recourſe to what is found to be the freezing point upon mountains, ſituated almoſt under the Equator, and compare it with the ſame height on the Pic of Teneriff, which being in N. lat. 28, is five degrees to the Northward of the tropical limits.

The French Academicians ſuppoſe, that the freezing point, at which all vegetation ceaſes, and ice takes place, commences on Cotopaxi, at 1411 toiſes above the level of the ſea; or, by our meaſure, at the height of about a mile and three quarters (t).

Mr. Edens, on the other hand, hath given us a very particular account of what he obſerved in going to the top of Teneriff (u); and ſo far from ſeeing ſnow or ice (except in a cave) his coat was covered, during the night, with dew, at the very ſummit, which, according to Dr. Heberden's computation, is 15,396 feet high, or wants but 148 yards of three miles (x).

Now as it is thus ſettled, that the Pic of Teneriff is nearly three miles high, which exceeds by more than a mile the height of the freezing point on Cotopaxi, ſituated under the Equator, it ſhould ſeem that there is no material difference between the heat under the Equator and within the Tropics; for if it is urged, that Teneriff is more ſurrounded with ſea than Cotopaxi, it muſt on the other hand be recollected, that this mountain is ſituated 5 degrees to the Northward of the Tropic, at the ſame time that the ſummit exceeds the freezing

---

(t) Cotopaxi is the higheſt mountain of the Andes, at leaſt in the neighbourhood of Quito. The plain of Carabuca, from which it riſes, is 1023 toiſes above the level of the ſea, and the height of the mountain above this plain is 1268 toiſes, making together 2291 toiſes. If 880 toiſes therefore are deducted from 2291, 1411 toiſes become the height of the freezing point upon this mountain. See Ulloa's Account of S. America.

(u) Phil. Tranſ. Abr. vol. V. p. 147. Sprat's Hiſt. R. Soc.

(x) See Hawkeſworth's Voyages, vol. II. p. 12. Goats alſo reach the very ſummit, which muſt be in ſearch of food, as they do not bear cold well.

point on Cotopaxi by more than a mile; both which circumſtances ſhould render it colder than the freezing point on Cotopaxi.

The inference to be drawn from this compariſon ſeems to be, that as the heat varies ſo little between the Equator and the tropical limits, it may differ as little between the Arctic circle and the Pole.

Nothing hath been ſuppoſed to ſhew more ſtrongly the wiſdom of a beneficent Creator, than that every part of this globe ſhould (taking the year throughout) have an equal proportion of the Sun's light.

It is admitted, that the equatorial parts have rather too much heat for the comforts of the inhabitants, and thoſe within the Polar circles too little; but as we know that the tropical limits are peopled, it ſhould ſeem, that the two Polar circles are equally deſtined for the ſame purpoſe; or if not for the benefit of man, at leaſt for the ſuſtenance of certain animals.

The largeſt of theſe, in the whole ſcale of Creation, is the whale; which, though a fiſh, cannot live long under water, without occaſionally raiſing its head into another element, for the purpoſe of reſpiration: moſt other fiſh alſo occaſionally approach the ſurface of the water.

If the ice therefore extends from N. lat. 80½ to the Pole, all the intermediate ſpace is denied to the Spitzbergen whales, as well perhaps as to other fiſh; and is that glorious luminary, the Sun, to ſhine in vain for half the year upon ten degrees of latitude round each of the

Poles,

Poles, without contributing either to animal life or vegetation? for neither can take place upon this dreary expanſe of ice.

If this tract of ſea alſo is thus rendered improper for the ſupport of whales, theſe enormous fiſh, which require ſo much room, will be confined to two or three degrees of latitude in the neighbourhood of Spitzbergen; for all the Greenland maſters agree, that the beſt fiſhing ſtations are from 79 to 80, and that they do not often catch them to the Southward.

I will now aſk, if the ſea is congealed from N. lat. 80½ quite to the Pole, when did it thus begin to freeze, as it is well known, that a large quantity of ſea water is not eaſily forced to aſſume the form of ice(y)? Can it be contended, that ten degrees of the globe round each pole, were filled with an incruſted ſea at the original creation? And if this is not inſiſted upon, can it be ſuppoſed, that when the ſurface of the Polar ocean firſt ceaſed to be liquid, it could have reſiſted the effects of winds, currents, and tides?

(y) "There are three kinds of ice in the Northern ſeas. The firſt is like "melted ſnow which is partly hardened, is more eaſily broken into pieces, leſs "tranſparent, is ſeldom more than ſix inches thick, and when melted, ſalt is "found in it. This firſt ſort of ice is the only one which is ever formed from "ſea water.

"If a certain quantity of water, which contains as much ſalt as ſea water, "is expoſed to the greateſt degree of cold, it never becomes firm and pure ice, "but reſembles tallow, or ſuet, whilſt it preſerves the taſte of ſalt, ſo that the *ſweet* "tranſparent ice can never be formed in the ſea. If the ice of the ſea itſelf, "therefore, confined in a ſmall veſſel without any motion, cannot thus become "true ice, much leſs can it do ſo, in a deep and agitated ocean." The author hence infers, "that all the floating ice in the Polar ſeas comes from the "Tartarian rivers and Groenland," as I have before contended. See a Diſſertation of Michel Lomonoſof, tranſlated from the Swediſh Tranſactions of 1752. *Collection Académique*, Tom. XI. p. 5. & *ſeq.* Paris, 1772, quarto. The Diſſertation is entitled, "*De l'Origine des Monts de Glace, dans la Mer du* "*Nord.*"

I beg leave alſo, to rely much upon the neceſſity of the ice's yielding to the conſtant reciprocation of the latter; becauſe no ſea was ever known to be frozen but the Black Sea, and ſome ſmall parts of the Baltic(z), neither of which have any tides(a), at the ſame time that the waters of both are known to contain much leſs ſalt than thoſe of other ſeas, from the great influx of many freſh water rivers. For this laſt reaſon, it may likewiſe be preſumed, that the circumpolar ſeas are very ſalt, becauſe there is probably no ſuch influx beyond N. lat. 80, Spitzbergen itſelf having no rivers.

Having thus given ſome general reaſons, why the ſea ſhould not be ſuppoſed to be frozen in the ten higheſt degrees of latitude, I ſhall now proceed to lay before the Society, ſeveral inſtances, which I have lately collected, and which prove that it is not ſo covered with ice conſiderably to the N. of 80½.

(z) To theſe perhaps may be added the White Sea.

(a) The tides indeed do not riſe to a great height on the Northern coaſt of Spitzbergen; but I do not know that it muſt follow from thence, that they may not be more conſiderable, as the Pole is approached; at leaſt ſuch an inference is by no means concluſive.

I ſhall, however, previouſly make two obſervations; the firſt of which is, that every inſtance of exceeding N. lat. 80½, as much proves that there is no perpetual barrier of ice in that latitude, as if the navigator hath reached the Pole. The ſecond is, that as four experienced Greenland maſters have concurred in informing me, that they can ſee what is called the *blink of the ice*(b), for a degree before them, they never can be off Hakluyt's Headland, which is ſituated in 79° 50′, without obſerving this effect of the ice upon the ſky, if there was a perpetual barrier at 80½, which is not much more than half a degree from them, when in that ſituation. Now Hakluyt's Headland is what they ſo perpetually take their departures from, that it hath obtained the name of *The Headland* by way of preeminence.

This mountain alſo is ſo high, that it can be diſtinguiſhed at the diſtance of a degree: in ſuch inſtances, therefore, which I ſhall produce, that do not ſettle the latitude by obſervation, whenever the reckoning depends upon the approach or departure from this Headland, the account receives the additional check of the mountain's being increaſed or diminiſhed gradually to the eye of the obſerver.

My ſecond previous remark ſhall be, that in all inſtances of reaching high Northern latitudes, for which the authority of the ſhip's journal may be required,

---

(b) This is deſcribed to be an arch formed upon the clouds, by reflection from the *packed ice*.

quired, it is almoſt impoſſible to procure this ſort of evidence, except the voyages have been recent; not only for the reaſons I have given in my former paper, but becauſe I find, that if the ſhip's journal is not wanted by the owners in a year or two (which ſeldom happens) it is afterwards conſidered as waſte paper.

Without the leaſt impeachment alſo of the knowledge in navigation of the Greenland maſters, when they are in the actual purſuit of fiſh, they do not trouble themſelves about their longitude or latitude; they are not bound by their inſtructions to ſail to any particular point, and their only object is to catch as many whales as poſſible; the ſhip's ſituation therefore, at ſuch time, becomes a matter of perfect indifference. It will appear, however, that they not only keep their reckonings, but obſerve, when they are not thus employed in fiſhing.

Having made theſe previous remarks, I ſhall now proceed to lay before the Society, ſuch inſtances of navigators having penetrated beyond 80½, as I have happened to procure ſince the reading of my former paper on this ſubject, in May laſt.

James Hutton (then belonging to the ſhip London, Captain Guy) was, thirty years ago, in N. lat. 81½, as both the captain and mate informed him; but did not obſerve himſelf. A very intelligent ſea officer was ſo good as to take from him this account, together with the following particulars, which perhaps may be intereſting to Greenland navigators.

Hutton hath been employed in the whale fiſhery nearly theſe forty years, during which he hath been ſeveral times at the Seven Iſlands, and the Waygat Straits. In ſome of theſe voyages the ſea hath been perfectly clear from ice, and at other times it hath ſet in ſo rapidly towards the Waygat, as to oblige the veſſels which happened to be thereabouts, to force all ſail poſſible, to eſcape being incloſed.

This hardy old tar likewiſe ſuppoſes, that he hath been further up the Waygat than perhaps any perſon now living; for he was once in a ſhip which attempted to paſs through it, nor did the maſter deſiſt, till they ſhoaled the water to three fathoms, when the ſea was ſo clear, that they could diſtinguiſh the bottom from the deck.

Mr. John Phillips, now maſter of the Exeter, but then mate of the Loyal Club, in the year 1752, reached N. lat. 81 and ſeveral minutes by obſervation, which circumſtance was confirmed by another perſon on board the Exeter laſt ſummer, on her return from the Greenland fiſhery. Captain Phillips added, that it was *very common* to fiſh in ſuch latitudes.

Mr. George Ware, now living at Erith in Kent, ſerved as chief mate in the year 1754, on board the Sea Nymph, Captain James Wilſon, when, at the latter end of June, they ſailed through floating ice from 74 to 81; but having then proceeded beyond the ice, they purſued the whales to 82° 15′, which latitude was determined by Mr. Ware's own obſervation.

As the ſea was now perfectly clear, as far as he could diſtinguiſh with his beſt glaſſes, both Mr. Ware and Captain Wilſon had a ſtrong inclination to puſh further towards the Pole; but the common ſailors hearing of ſuch their intention, remonſtrated, that if they ſhould be able to proceed ſo far, the ſhip would fall into pieces, as the Pole would draw all the iron work out of her.

On this Captain Wilſon and Mr. Ware deſiſted, as the crew had theſe very ſingular apprehenſions; eſpecially as they had no whales in ſight to the Northward, which alone would juſtify the attempt to their owners (c). It need ſcarcely be obſerved, however, that the notion which prevailed amongſt the crew ſhews, that the common ſeamen on board the Greenland ſhips conceive, that the ſea is open to the Pole; they would otherwiſe have objected on account of the ice being ſuppoſed to increaſe. It ſhould ſeem alſo, that the practicability of reaching the Pole is a point which they often diſcuſs amongſt themſelves.

In *this ſame year and month*, Mr. John Adams (who now is maſter of a flouriſhing academy at Waltham Abbey, in Eſſex) was on board the Unicorn, Captain Guy, when they anchored in Magdalena Bay (d), on the Weſtern coaſt of Spitzbergen and N. lat. 79° 35′.

(c) This circumſtance of not ſeeing any whales to the Northward, accounts for Captain Guy's deſiſting, in the following inſtance, from ſailing to the Northward, as alſo in many others which I ſhall have occaſion to ſtate.

(d) The Greenland maſters moſt commonly call this bay Mac-Helena.

They continued in this bay for three or four days, and then ſtood to the Southward, when the wind freſhning from that quarter, but the weather foggy, they proceeded with an eaſy ſail for four days, expecting to meet with fields of ice, to which they might make faſt; but they did not encounter ſo much as a piece of floating ice. On the fifth day the wind veered to the Weſtward, the weather cleared up, and Mr. Adams had a good obſervation (the Sun above the Pole(e)) by which he found himſelf three degrees to the Northward of Hakluyt's Headland, or in N. lat. 83.

Captain Guy now declared, that he had never been ſo far to the Northward before, and crawled up to the main-top maſt head, accompanied by the chief mate, whilſt the ſecond mate together with Mr. Adams went to the fore-top maſt head, from whence they ſaw a ſea as free from ice as any part of the Atlantic ocean, and it was the joint opinion of them all, that they might have reached the N. Pole.

The ſhip then ſtood to the Southward, and twelve hours afterwards Mr. Adams had a ſecond good obſervation (the Sun beneath the Pole) when their latitude was 82° 3′. In both theſe obſervations, Mr. Adams made an allowance of 5′ for the refraction, which, he ſays, was his captain's rule, who was now on his 59th or 60th voyage to the Greenland ſeas.

(e) The old navigators to theſe parts call this a *South Sun.*

In the year 1756, Mr. James Montgomery, now a merchant in Preſcot-ſtreet, Goodman's-fields, but then maſter of the Providence, followed the whales during the month of June till he reached N. lat. 83, by obſervation. Another Greenland maſter informs me, that he remembers well the ice packed much to the Weſtward, but that the ſea was open to the Northward during that ſummer.

In 1762, David Boyd, then mate of the brig Betſy, was driven by a gale of wind from 79 to 82, odd minutes, by obſervation; during all which time he was beſet in ice. A Greenland maſter has likewiſe told me, that he recollects many other ſhips were driven to the N. E. from their fiſhing ſtations during that ſeaſon.

Mr. Jonathan Wheatley, now maſter of a Greenland ſhip, was in 1766 off Hakluyt's Headland(f), whence, not meeting with ſucceſs, he ſailed N. W. to 81½, in which latitude he could ſee no ice in any direction whatſoever from the maſt head, though there was a very heavy ſea from the N. E.

Mr. Wheatley alſo informs me, that whilſt he was off the Coaſt of Greenland, three Dutch Captains told him, that a ſhip of their nation had been in 89, and they all ſuppoſed, that the ſea in ſuch a latitude might be as free from ice as where they were fiſhing. This account probably alludes to the Dutch man of war on board of which Dr. Daillie happened to be, the circumſtances of which voyage I have ſtated in my former paper,

---

(f) He was then on board a ſhip called the Grampus

This ſame captain is ſo thoroughly perſuaded of being able to approach the Pole, that he will attempt it whenever an opportunity offers of doing it, without prejudice to his owners. On ſuch a voyage of diſcovery, he would not wiſh a larger veſſel than one of 90 tons, nor more than ten hands. I find, indeed, that this is the ſize of the ſhip, in which moſt of the early navigators attempted to penetrate far to the Northward.

In 1769, Mr. John Thew, now maſter of a Greenland ſhip called the Riſing Sun, was in N. lat. 82, and 100 leagues to the W. of Hakluyt's Headland. The circumſtances by which he ſuppoſed himſelf to have been in this ſituation, were ſtated to me in the preſence of a very able ſea officer, who told me afterwards, that he was perfectly ſatisfied with the accuracy of his account.

Captain John Clarke, of the Sea Horſe, at the latter end of June 1773, ſailed from the Headland N. N. E. to 81$\frac{1}{2}$, which he computed by his run from the Headland in 18 hours, having loſt ſight of it. At this time there was an open ſea to the Northward, and ſuch a ſwell from the N. E. that the ſhip would not ſtay, being under her double reef'd topſails, whilſt the wind blew freſh.

During this run from the Headland, Mr. Clarke fell in with Captain Robinſon in 81° 20′, whom I mentioned in my former paper as having reached 81$\frac{1}{2}$ in the ſame month and year, by a very accurate obſervation.

This ſame Captain Robinſon, on the 28th of June laſt, paſſed by Hakluyt's Headland, lying off and on for ſeveral days, during which he was ſometimes a degree to the Northward of it, and till the 20th of July following, there was no obſtruction to his proceeding Northward; to which, however, he had no inducement, as he caught two large whales in this latitude.

Captain John Reed, of the Rockingham, alſo in July laſt, purſued ſome whales 15 leagues to the Northward of the Headland, and confirms Captain Robinſon's laſt account, by ſaying, he could then ſee no ice from his maſt head.

Captain Reed was brought up in the Greenland fiſhery, and remembers well, that whilſt on board his father's ſhip, the Thiſtle, the mate told him, that they had reached 81° 42′, when there was indeed a good deal of ice, but full room to ſail in any direction.

Mr. Reed likewiſe hath informed me, that about 15 years ago, a Dutch Captain (whoſe name was Hans Derrick) told him, whilſt they were together in the Greenland ſeas, that he had been in N. lat. 86, when there were only ſome ſmall pieces of floating ice to be ſeen. Hans Derrick moreover added, that there were then five other ſhips in company, which took one with another eighteen ſmall whales.

Mr. Reed ſuppoſes, that this Dutch maſter may be ſtill living, and I ſhall, therefore, endeavour to procure further intelligence about this Greenland voyage from

Holland; at all events, the account is ſo circumſtantial, that it ſeems well to deſerve attention.

I have great reaſon to expect ſeveral other inſtances of the ſame kind, in a ſhort time, from the different ports of this kingdom where there is any conſiderable Greenland trade: I ſhall not, however, trouble the Society with them, till I know whether they would wiſh any further information on this head.

I ſhall now recapitulate the different latitudes which have been reached by the ſeveral navigators whoſe names I have mentioned in this and my former paper. I ſhall alſo take credit for nearly a degree to the Northward of their ſeveral ſituations, becauſe the *blink or glare* of the *packed ice* is to be diſtinguiſhed at this diſtance, when the weather is tolerably fair.

80°. 45′. Captain John Reed.
81°. For three weeks together, Captain Thomas Robinſon.
81°. odd minutes. Captain John Phillips.
81°. 30′. Four inſtances; *viz.* James Hutton, Jonathan Wheatley, Thomas Robinſon, John Clark.
82°. Two inſtances; *viz.* Captains Cheyne and Thew.
82°. odd minutes. Two inſtances; *viz.* Cluny and David Boyd.
82°. 15′. Mr. George Ware.
83°. Two inſtances; Mr. John Adams and Mr. James Montgomery.
83°. 30′. Mr. James Watt, lieutenant in the royal navy.

86°. Five ſhips in company with Hans Derrick.

88°. Two inſtances; Captain Johnſon and Dr. Daillie; to which, perhaps, may be added Captain Monſon as a third.

89°. Relation of the two Dutch ſhips to Captain Goulden(g).

89°. 30′. Dutch relation to Mr. Grey.

DAINES BARRINGTON, F.R.S.

(g) This inſtance, however, hath before been relied upon, though never, perhaps, circumſtantially ſtated, but by Captain Wood.

POST-

POSTSCRIPT.

January 8, 1775.

HAVING procured the three following inſtances before the reading of my paper was finiſhed, it may not be improper to add them in a poſtſcript.

In Harris's Voyages (b) is the following paſſage, "By "the Dutch Journals they get into N. lat. 88° 56′, "and the ſea open."

I have within theſe few days, aſked Dr. Campbell, the very able compiler of theſe voyages, upon what authority he inſerted this account? Who informs me, that he received it from Holland about 30 years ago, as being an extract from the journals produced to the States General in 1665, on the application for a diſcovery of the N. E. paſſage to Japan, which was fruſtrated by the Dutch Eaſt India Company.

In the *Journal des Sçavans*, for the month of October 1774 (i), is likewiſe the following paragraph:

"To theſe inſtances produced by Mr. Barrington" [of navigators having reached high Northern latitudes], "our countrymen (*viz.* the Dutch) could add many "others. An able officer in the Engliſh ſervice, hath in "his cuſtody, the journals of a Greenland ſhip, wherein

---

(b) Vol. II. p. 453.
(i) Part. II. p. 503.

" he hath remarked, that in the month of May he had " penetrated as far as 82° 20′, when the ſea was open."

The ſame journaliſt confirms what I have before mentioned, that Monſ. de Bougainville will try to reach the Pole(k).

My third and laſt inſtance is that of Captain Bateſon, who ſailed in 1773, from Liverpool, in a ſhip called the Whale, on the Greenland fiſhery, and who, on June 14, reached N. lat. 82° 15′, computed by his run-back to Hakluyt's Headland(l). As this happened ſo recently, Captain Bateſon (as well as many of the other maſters, whoſe accounts I have before mentioned) hath his journal to produce, if it ſhould be required.

This ſeems to be the ſtrongeſt confirmation of both Captain Robinſon and Captain Clark's having been, during this ſame year and month, in 81½; as alſo of their having met each other in 81° 20′, according to what I have already ſtated.

I muſt not loſe this ſame opportunity of laying before the Society, the information which I have juſt now received from M. de Buffon, in relation to what I have cited from his Natural Hiſtory of Captain Monſon's having reached N. lat. 88, " *as he was told by perſons of* " *credit*."

(k) Ibid. p. 506.

(l) His inducement to proceed ſo far North, was the purſuit of whales. I have ſhewn the extracts from Captain Bateſon's journal to a very able ſea officer, who is perfectly ſatisfied with the accuracy of it.

Upon my taking the liberty to inquire, *who thoſe perſons of credit were?* Monſ. de Buffon refers me to Dr. Nathan Hickman, who in 1730 travelled as one of Dr. Ratcliff's fellows (m); and who ſuppoſed, that Captain Monſon's journal might have been at that time procured in England. Monſ. de Buffon alſo recollects, that a Dutchman was then preſent, and confirmed the account.

(m) He was alſo a fellow of the Royal Society in 1730.